BALI ERM 2014

ERMA Bali International Seminar on **Enterprise Risk Management**

Leaping to The Next Curve
Towards ASEAN Economic Community

Enterprise Risk Management and Value Creation – Jambatan Kedua Sdn Bhd

Presented by:
Dato' Ir. Dr. Ismail Mohamed Taib
Managing Director, Jambatan Kedua Sdn Bhd

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Introduction

- The Bridge (approved under the 9th Malaysian Plan) was built in responding to National objectives of:
  - ✓ Strengthening the transportation system
  - ✓ Supporting balanced economic development of the State
  - ✓ Providing smooth and safe traffic service
- JKSB, a wholly-owned company of the Minister of Finance Incorporated was established in August 2008, as a special purpose vehicle ("SPV") for the design, construction, management, operation and maintenance of the Sultan Abdul Halim Mu'adzam Shah's Bridge.
- The implementation is under the Built, Operate, Transfer ("BOT") model, with a concession period of 45 years, governed by the Concession Agreement signed off between JKSB and the Government of Malaysia.
- The Second Penang Bridge is the longest in South-East Asia with:
  - ✓ the total length over water of 16.9km;
  - ✓ the overall length of 24km;

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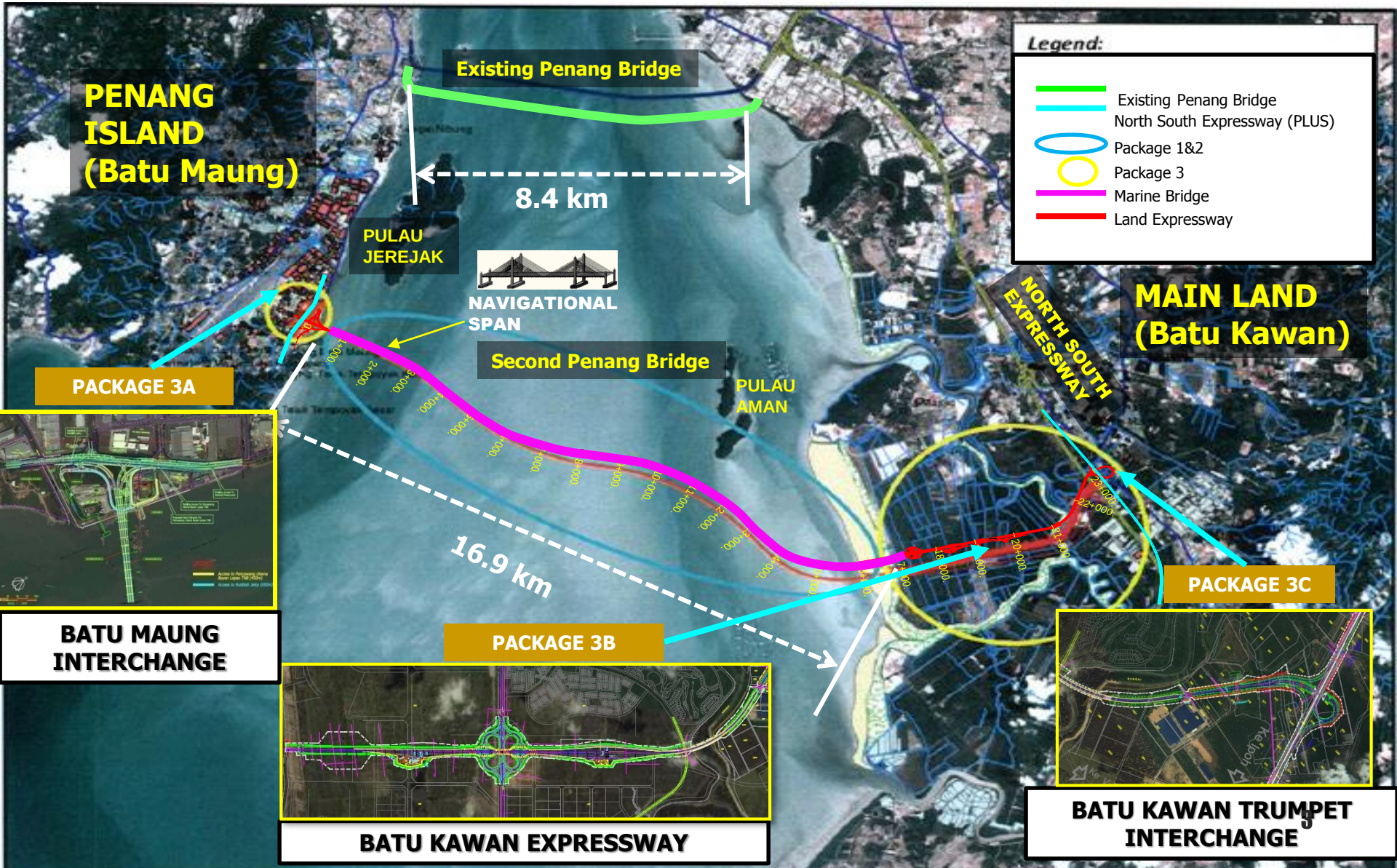
PROJECT ALIGNMENT



MANAGING THE RISKS - JKSB EXPERIENCE

- **Risks in general is anything that has potential to prevent the Company from achieving its objectives.**

- **At JKSB, Risk Management is a continuous, proactive and systematic process to recognize, manage and communicate risk from an organisation-wide perspective. Every employee plays an integral part in the JKSB's risk management framework.**

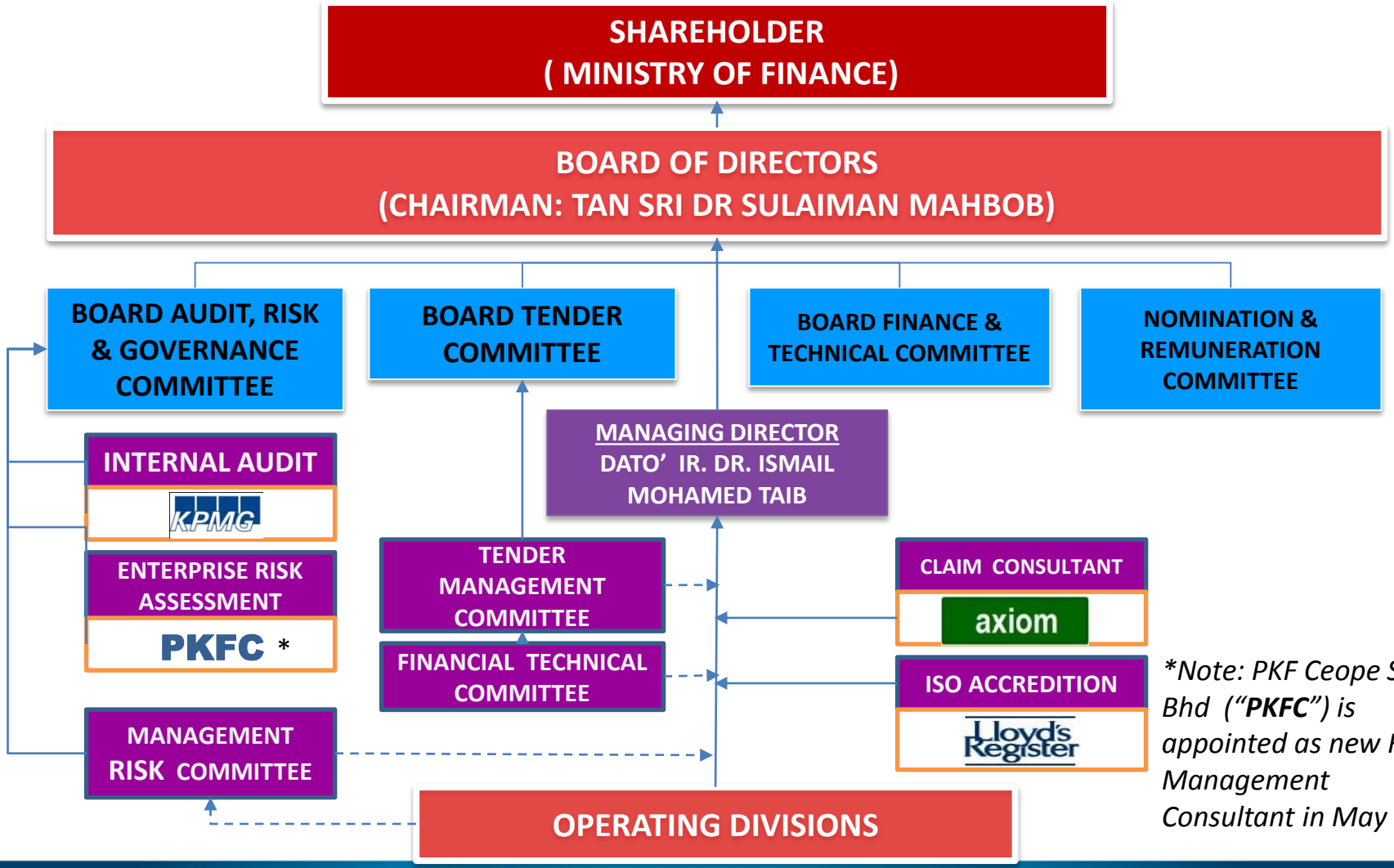
- **From JKSB's perspective the risks are managed by way of, risk sharing and risk management by establishing the following:**
  - ✓ **Strong Governance Structure;**
  - ✓ **Good Enterprise Risk Management Framework;**
  - ✓ **Good Contractual Risks Monitoring**

MANAGING THE RISKS - JKSB EXPERIENCE (CONT'D)

- **As a project manager for one of the mega infrastructure project, it is our commitment to the stakeholders to incorporate good governance and transparency in delivering value to complete the Project.**

- **In JKSB, ERM allows the company to make more informed decision in monitoring the project completion and operational matters more efficiently.**

GOVERNANCE STRUCTURE OF JKSB



*Note: PKF Ceope Sdn Bhd ("**PKFC**") is appointed as new Risk Management Consultant in May 2014

Corporate integrity initiatives

- **In order to enhance the integrity and transparency in the administration and operations, JKSB, has implemented the following:**
  - ✓ **Signed up for the Corporate Integrity Pledge (CIP) with the Malaysian Anti-Corruption Academy under Malaysian Anti-Corruption Comission.**
  - ✓ **Extend the integrity pact to vendor upon signing their agreement with JKSB, in line with the Treasury's circular to implement the integrity pact for government procurement.**
  - ✓ **Engage Transparency International Malaysia to evaluate the anti-bribery measures exists and to assess on how to better improve the controls.**
  - ✓ **Maintain and supervise the i-Supervision facility to the public online on 24/7 "24 hours a day, 7 days a week" basis.**

ERM FRAMEWORK @ JKSB

- **Risk Management is not only about threats but also about opportunities. With the current enterprise risk management, JKSB is in a good position to understand our strengths and weaknesses that we can leverage and improvise. At the same time we are identifying ways to mitigate the impact of the threats surrounding us as well as harnessing our resources to take advantage of all the opportunities available in ensuring our future sustainability as a corporate organization.**

- **With AEC the company will have a bigger landscape to lend our expertise by leveraging our experiences and good relationships with our partners in delivering the project that is now half way through in realizing its objective to promote economic and social integration throughout the northern region, as part of the planned transport system for Northern Corridor Economic Region ("NCER") initiatives under the Malaysian Plan.**

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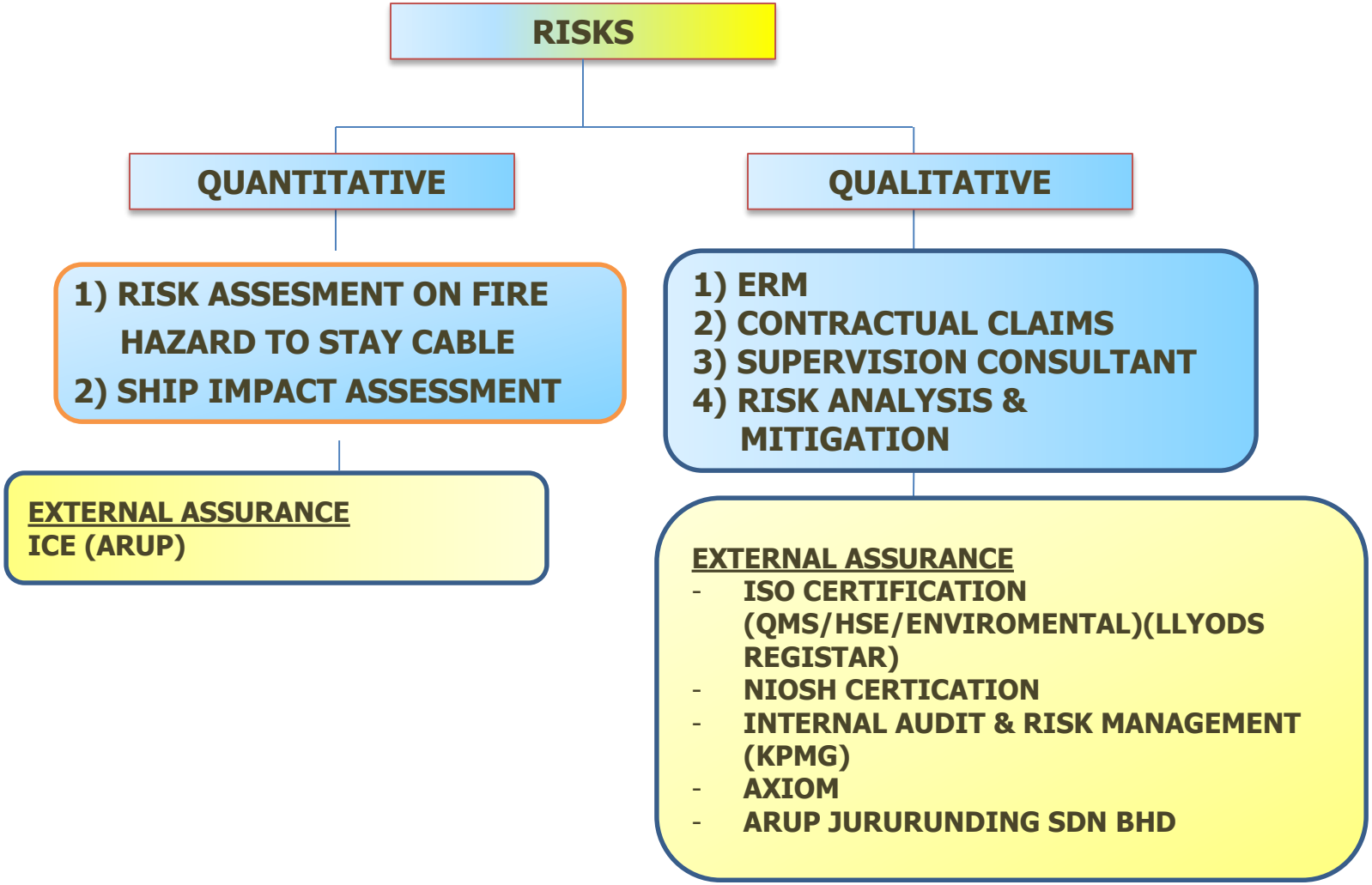
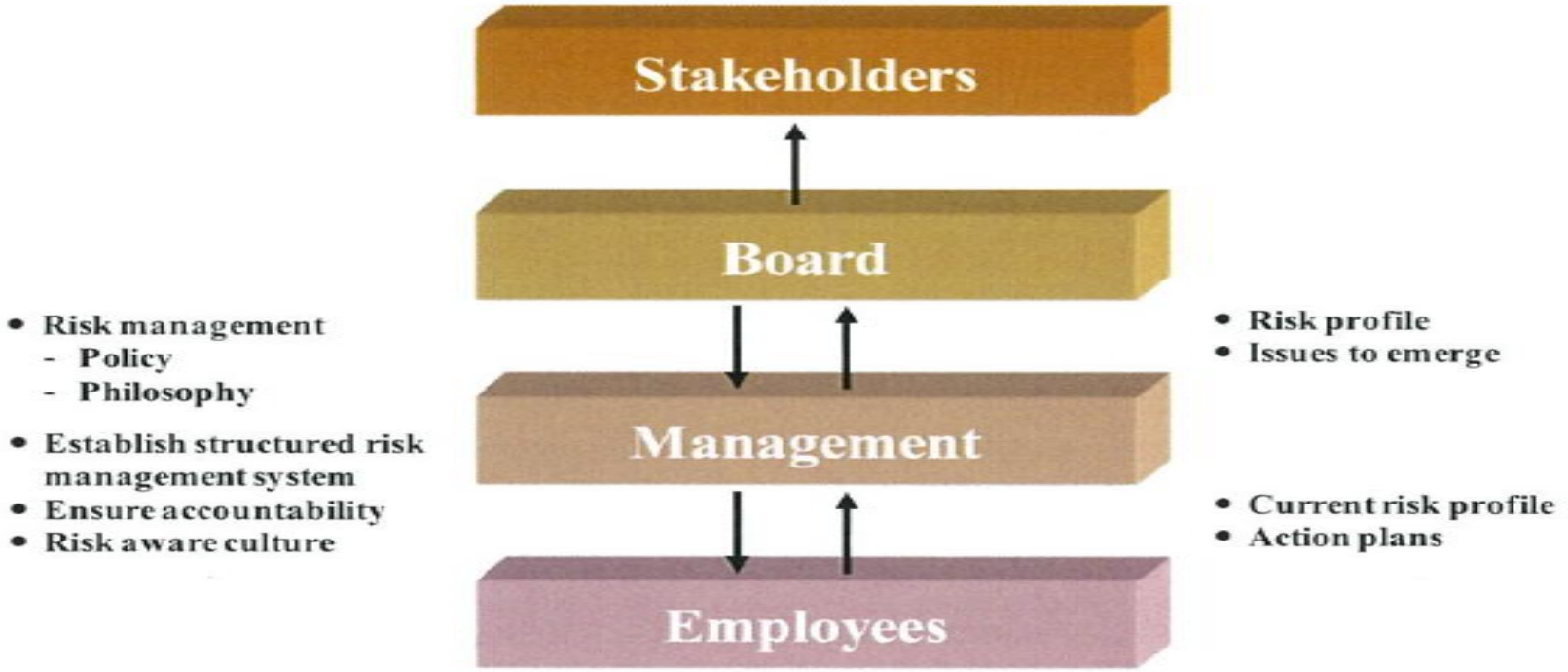
Overview of Risk Management



Responsibility of risk management

Responsibilities of RM cuts across the company as follows:



The risks accountability is as follows:

ERM FRAMEWORK @ JKSB

Five Key Elements of the framework:

Framework Element	Description
Risk Governance	Establish an approach to developing, supporting, and embedding the risk strategy and accountabilities
Risk Assessment	Identify, assess, and categorise risks across the enterprise
Risk Quantification and Aggregation	Measure, analyse and consolidate risks
Risk Monitoring and Reporting	Report, monitor and conduct activities to provide insight risk management strengths and weakness
Risk and Control Optimisation	Use risk and control information to improve performance

With the quarterly assessment done on the risks identified, not only that we are looking at the way to mitigate the existing risks, we are also looking at other potential risks that can affect the organization at a strategic level.

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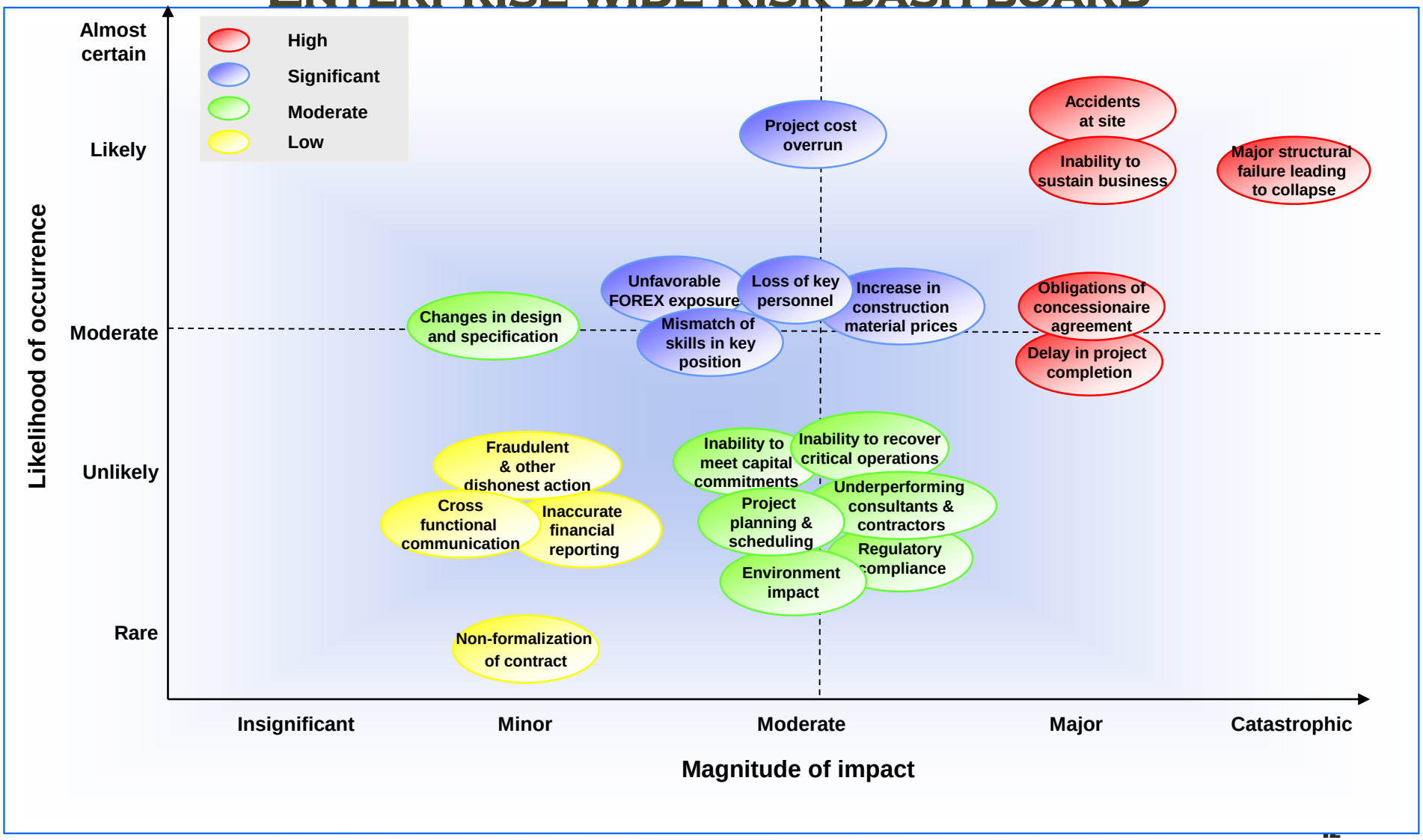
Enterprise-wide Risk dash board



Risk sharing

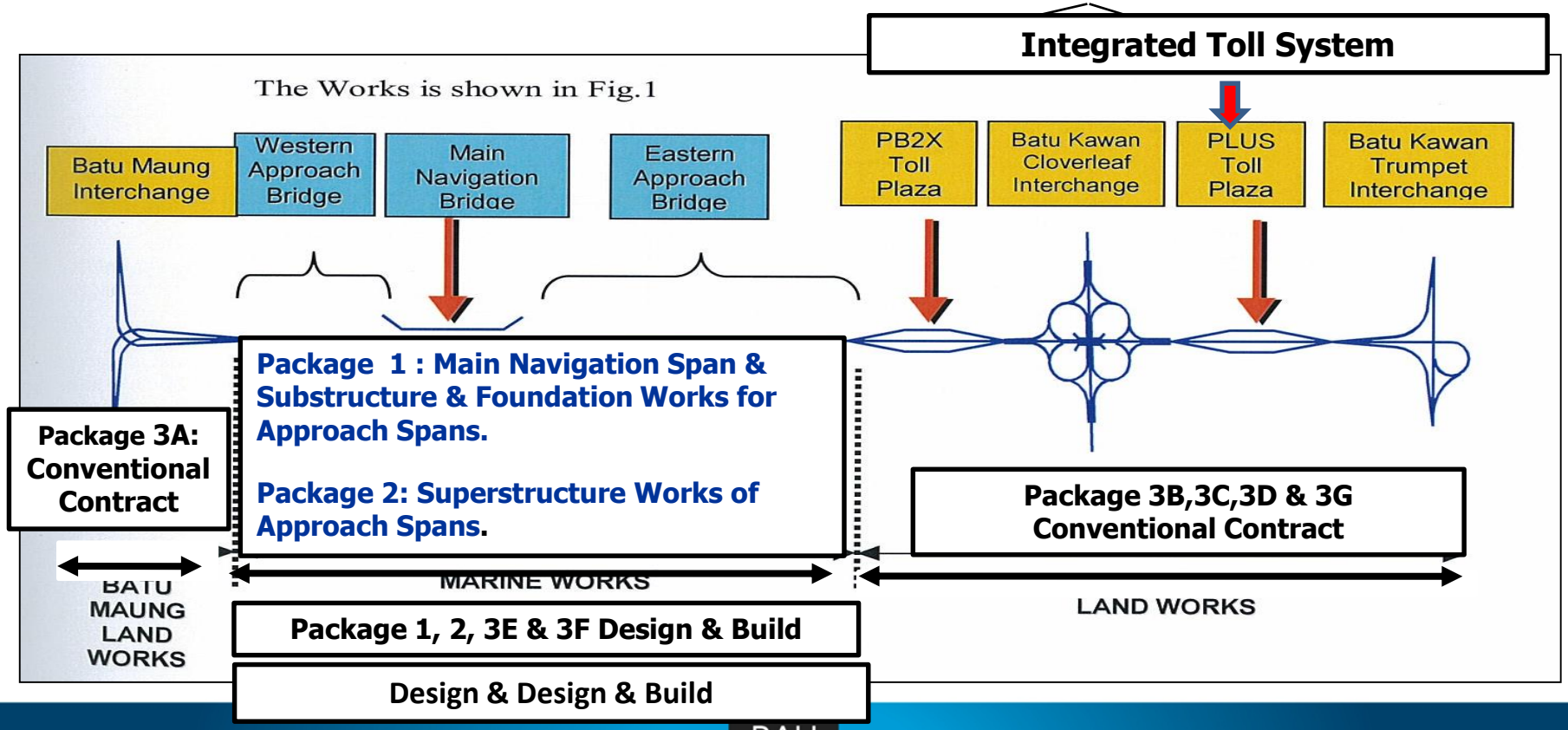
a) **Despite the contract on "design and build" is on fixed and firmed lump sum price, risk sharing provisions are allowed in respect of:**
   i. **Fluctuation of Price (sharing 50-50) on three main materials with ceiling quantities;**
   ii. **Provisional quantities for selective piling works;**
   iii. **Sharing of Contractor's cost saving variation proposals.**

b) **All "build-only" contracts are allowed price fluctuation provision with 100% compensation and provisional quantities where payment is subject to re-measurement of actual work executed.**

c) **For the purpose of ensuring the interfacing works between Package 1, 2 and 3 contractors can be successfully resolved without time loss, the scope of Interfacing Works was incorporated in the Contract Documents to stipulate the related contractor's respective obligations and scope of Interfacing Works as specifically set out in the Interfacing Works Responsibility Matrix.**

Choice & form of contract

- **Major portions of the PB2X were bought on the "design and build" project delivery method. work packages diagram.**
- **The Marine Bridge – (83% of the total cost of PB2X), awarded to prominent contractors to reduce the risk of performance error & increase quality through the assumption of full responsibility by a single entity**



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ERM QUARTERLY ASSESSMENT TOOLS

Specific risk	Gross risk	Residual risk	Control effectiveness	Target risk
Accident at site Des: Accident at the project site could occur due to non-adherence to safe working practices by site workers.	High	High	Some weaknesses	Moderate
Mitigating Measures				
1. Penalties imposed on contractors for non-compliance to safety				
2 Formation of OSHA committees by contractors , appointment of In-house Safety Officer & HSE Committees of JKSB to address safety issues				
3. Monthly project meeting involving JKSB, LLM and contractors, discussing: health, safety and environment issue				
4. Penalty system established to penalise contractors for non-compliance to safety requirement: removal of safety officer, project director, monetary penalities, stop work order.				
5. Obtained certification from National Institute of Safety and Health (NIOSH)				
6. Obtained ISO 18001:2007 certification (Occupational Safety and Health)				
7. Providing safetey trainings and awareness programes for contractors and employees of JKSB				
8 Establishment of Hazard Identification, Risk Assessment & Determination of Controls (HIRADC)				

- Due to the collapse incident, Management has issued a zero-risk public safety policy for all contractors

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External Certification

- **ISO CERTIFICATION**

MS ISO/IEC 17021:2006
QS 12022007 CB 06

MS ISO/IEC 17021:2006
EMS 18052006 CB 07

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Surveillance audit conducted by certification body on yearly basis with no adverse report so far.

- **International Green Apple Awards for the built environment & architectural heritage 2013 & Green World Ambassador 2014**

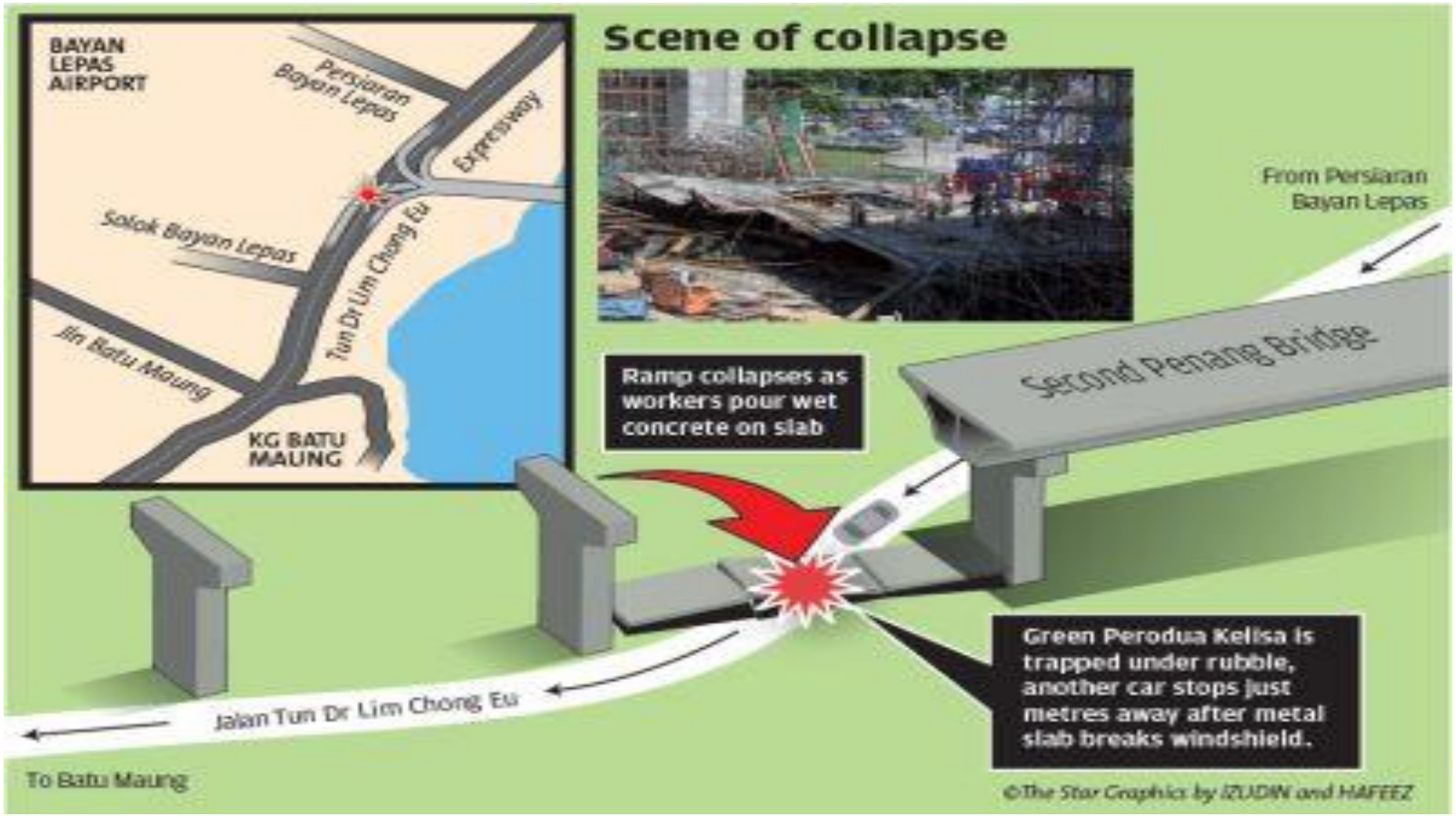
- **Recognition in the " Malaysia Book of Records " for 15 categories including recognition for Green Building Index class Platinum & Gold toll plazas.**

External certification (cont'd)

- **The International Star for Quality Award in 2014 for "Category Gold" in "ISAQ Geneva Convention" in September 2014.**

- **"Road Engineering Excellence Award 2014" from Road Engineering Association of Malaysia (REAM)**
- **Independent Checking Engineer (ICE) site audit:**
  Conducted once every 2 months to ensure the quality of the construction meets the international standard specifications.

ERM FRAMEWORK @ JKSB



6 June 2013 @ 7pm – Collapse incident at Elevated Ramp No. 2 at Span no. 3 (R2/ P6 to R2/ P7) at Package 3A – 1 fatality and 3 injured

Successful Load Test

Load Test was done as follows:

1. **Package 2- on 22 to 26 April 2013 with load weight of 120 tonne.**

- ✓ Heavy Vehicle Load Test: Deflection theory is 5.5mm with actual reading of 7.12mm
- ✓ Normal Vehicle Load Test: Deflection theory is 2.0mm with actual reading of 1.46mm

2. **Package 1 - on 17 Oct 2013 on the Main Span with load weight of 55 tonne.**

- ✓ The first load test in Malaysia for new bridge before opening to Public
- ✓ Vertical Deflection: Theory is 31mm, with actual reading of 17.7mm

Successful load test (cont'd)

Load Test was done as follows:

3. **Package 3A – on 10 Dec 2013 at Ramp 2 with load weight of 360 tonnes.**

- ✓ The collapsed incident is independent to the permanent structure. To get public confidence on the safety of the ramp.
- ✓ Deflection theory is 10.65mm with the actual reading of maximum deflection at 8.4mm.

CONCLUSION

- **As a project management company involved in the execution of a public project and a concessionaire taking care of a public asset; it is pertinent for the risks involved to be managed carefully to give value to the stakeholders at large.**
- **A strong governance structure and a good risk management framework, be it enterprise-wide or contractual risk monitoring, are very important to manage the risk in implementing the PPP projects.**
- **This has been the basis for the management of risk in the construction of the Sultan Abdul Halim Mu'adzam Shah' Bridge as one of the longest bridge in South East Asia.**
- **The Jambatan Sultan Abdul Halim Mu'adzam Shah has been successfully completed within reasonable time, within budget and to the highest quality possible.**

ETFE

Thank You
For Your Kind Attention